



TECHNICAL NOTE

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U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT

A FIELD ICE BOX

by

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With the pressure on biologists to conduct wildlife inventories, it is helpful to have an ice box in the field that will keep specimens frozen. This ice box has been field tested for three summers. It held specimens in the field with 50 pounds of dry ice for up to 10 days, even when daytime temperatures were over 100° F.

The ice box consists of a commercial-type picnic cooler surrounded by 1 and 1/2 to 1 and 3/4 inch insulation enclosed within a tight plywood box (fig. 1). It is simple and inexpensive to build.

To obtain maximum reflection of heat, the outside of the box should have two coats of white paint. Further heat reflection can be obtained by covering the entire box with a red and silver "space blanket" with the silver side out.

The box should be kept in the shade at all times and should not be opened any more than is absolutely necessary. Crumpled newspaper packed over the ice and specimens helps to slow the evaporation of the dry ice.

If one is anticipating a long trip in hot weather, it is desirable to have two ice boxes. Specimens can be frozen in one and then held frozen in the other. Since the initial freezing causes the ice to evaporate faster than simply holding the specimens frozen, the holding ice will last much longer if the specimens are frozen separately.

Specimens should be placed into the holding ice box several at a time to minimize the number of times it has to be opened.

One caution, do not place small specimens directly on the dry ice; the extreme cold "freezer burns" the specimens which makes them difficult to prepare as study skins.

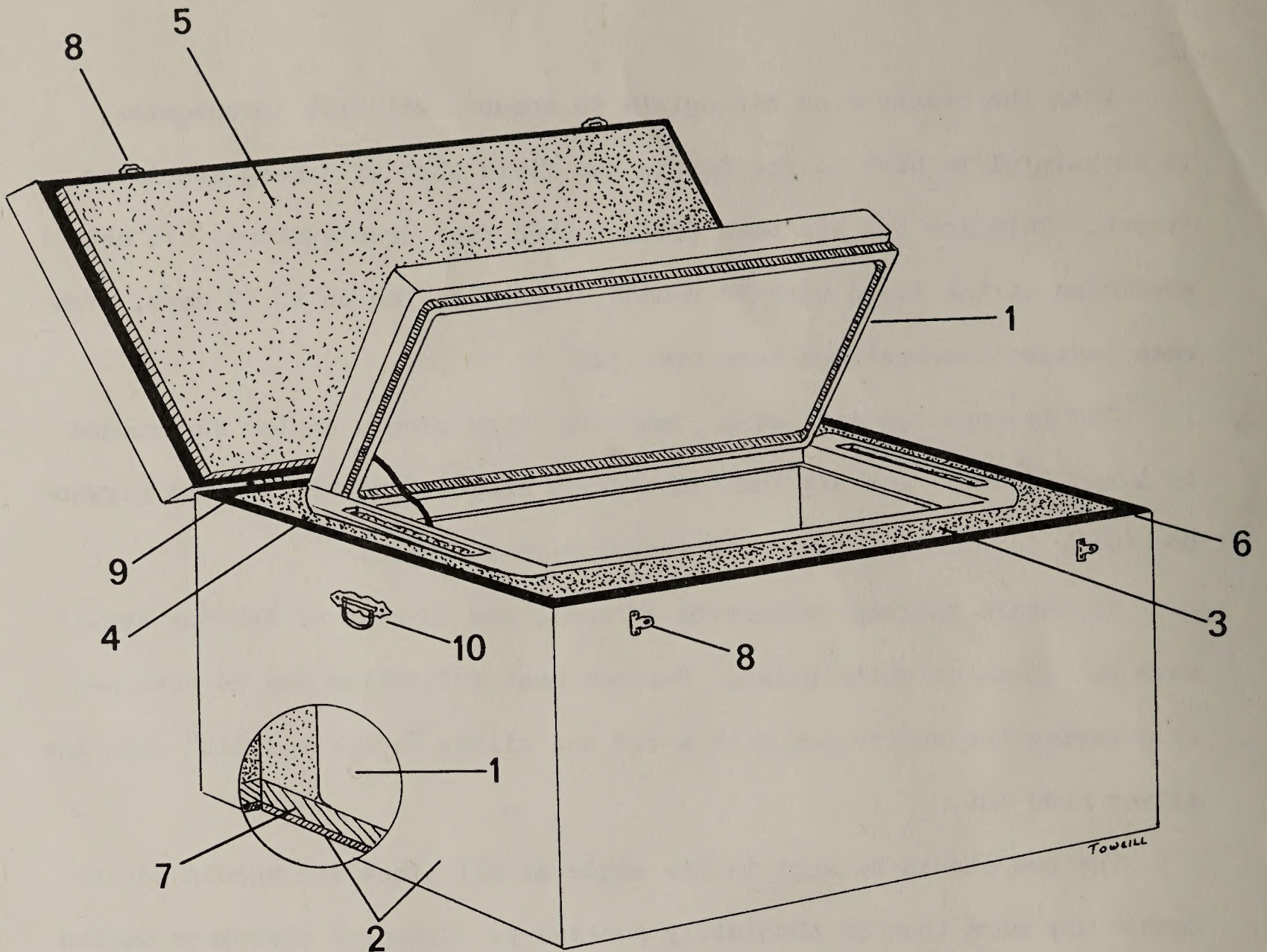


Figure 1. Construction of field ice box.

1. Commercial recreational cooler
2. 3/4 inch plywood - glued and nailed at the joints
3. 1 and 1/2 inch fiberglass insulation
4. 1 and 3/4 inch fiberglass insulation
5. Fiberglass insulation should be thick enough to hold cooler lid down securely.
6. Weather stripping
7. 1 inch styrofoam
8. Locks should be tight
9. Heavy-duty hinges
10. Handles should be strong enough to hold 80 pounds